CLAIMS (first page - amended)

1. A steel composition intended to be used in a process comprising a cold rolling step, for the production of uncoated, electro-galvanised or hot dip galvanised TRIP steel products, said composition being characterised by the following contents :

- C : between 1300ppm and 2600ppm,
- Mn : between 10000ppm and 22000ppm,
- Al : between 8000ppm and 15000ppm,
- Si : between 2000ppm and 6000ppm,
- P : between 400 and 1000ppm,
- S : maximum 120ppm,
- N : maximum 200ppm,
- Ti : maximum 1000ppm,
- Nb : maximum 1000ppm,
- V : maximum 1000ppm,
- B : maximum 10ppm.

the remainder being ~~substantially~~ iron and incidental impurities.

2. The steel composition according to claim 1, comprising a carbon content between 1300ppm and 1900ppm.

3. The steel composition according to claim 2, comprising a carbon content between 1350ppm and 1900ppm.

4. The steel composition according to claim 2, comprising a carbon content between 1400ppm and 1900ppm.

5. The steel composition according to claim 1, comprising a carbon content between 1700ppm and 2300ppm.

6. The steel composition according to claim 1, comprising a carbon content between 2000ppm and 2600ppm.

7. The steel composition according to either one of claims 2 to 6, comprising :

- Mn : between 13000ppm and 22000ppm,
- Al : between 8000ppm and 14000ppm,
- Si : between 2500ppm and 4500ppm,
- P : between 600 and 1000ppm,
- S : maximum 120ppm,
- N : maximum 150ppm,
- Ti : maximum 200ppm,
- Nb : maximum 100ppm,
- V : maximum 100ppm,
- B : maximum 5ppm.

8. The steel composition according to claim 7, comprising an aluminium content between 9000ppm and 13000ppm.

9. A process for manufacturing a cold rolled TRIP steel product, comprising the steps of:

- preparing a steel slab having a composition according to any one of claims 1 to 8,
- hot rolling said slab, wherein the finishing rolling temperature is higher than the Ar3 temperature, to form a hot-rolled substrate,
- cooling said substrate to a coiling temperature (CT) between 500°C and 680°C,
- coiling said substrate at said coiling temperature,
- pickling said substrate to remove the oxides,
- cold rolling said substrate to obtain a reduction of thickness, with a minimum reduction of 40%.

10. The process according to claim 9, further comprising the steps of:

- soaking said substrate at a temperature between 760°C and 850°C,
- cooling said substrate with a cooling rate higher than 2°C/s to a temperature in the range 360°C to 450°C,
- holding said substrate in said temperature range for a time less than 700s,
- cooling said substrate to room temperature at a cooling rate higher than 1°C/s.
- subjecting said substrate to a skinpass reduction of maximum 1.5%.

11. The process according to claim 10, further comprising an electrolytic zinc coating step.

12. The process according to claim 9, further comprising the following processing steps:

- soaking said substrate at a temperature between 760°C and 850°C,
- cooling said substrate with a cooling rate higher than 2°C/s to the temperature of a Zn-bath,
- holding said substrate in the temperature range between 490°C and 460°C for less than 200 seconds.
- hot dip galvanising said substrate in said Zn-bath,
- cooling said substrate to room temperature at a cooling rate higher than 2°C/s.

13. The process according to claim 12, further comprising the step of subjecting said substrate to a skinpass reduction of maximum 1.5%.

14. A steel product produced according to the process of any of claims 8 to 11 and having a microstructure comprising 30-75% ferrite, 10-40% bainite, 0-20% retained austenite and possibly 0-10% martensite.

15. A steel product produced according to the process of any one of claims 10 to 13, said product comprising a carbon content between 1300ppm and 1900ppm, said product having a yield strength between 320MPa and 480MPa, a tensile strength above 590MPa, an elongation A80 higher than 26% and a strain hardening coefficient, calculated between 10% and uniform elongation, higher than 0.2.

16. A steel product produced according to the process of any one of claims 10 to 13, said product comprising a carbon content between 1700ppm and 2300ppm, said product having a yield strength between 350MPa and 510MPa, a tensile strength above 700MPa, an elongation A80 higher than 24% and a strain hardening coefficient, calculated between 10% and uniform elongation, higher than 0.19.

17. A steel product produced according to the process of any one of claims 10 to 13, said product comprising a carbon content between 2000ppm and 2600ppm, said product having a yield strength between 400MPa and 600MPa, a tensile strength above 780MPa, an elongation A80 higher than 22% and a strain hardening coefficient, calculated between 10% and uniform elongation, higher than 0.18.

18. A steel product produced according to the process of any one of claims 10 to 13, said product comprising a carbon content between 2000ppm and 2600ppm, said product having a yield strength between 450MPa and 700MPa, a tensile strength above 980MPa, an elongation A80 higher than 18% and a strain hardening coefficient, calculated between 10% and uniform elongation, higher than 0.14.

19. A steel product produced according to any one of claims 14 to 18, having bake hardening BH2

higher than 40MPa in both longitudinal and transversal directions.